

NOTES ON NORTH AMERICAN MICROLEPIDOPTERA WITH DESCRIPTIONS OF NEW GENERA AND SPECIES

By AUGUST BUSCK

FAMILY MOMPHIDAE

MOMPHA BOTTIMERI n. sp.

Labial palpi with second and third joint slightly roughened in front; white, strongly marked with black on outer sides and with brush sprinkled with black. Tongue well developed, spiraled, scaled at base, white. Antennae dark fuscous with very narrow white annulations; basal joint white. Head and thorax silvery white. Fore wings elongate ovate with apex produced, pointed and slightly acuminate below, but the scaling gives the wing the appearance of being falcate. Venation typical of the genus. Silvery white with fawn-brown and black markings; basal half pure white except for the costal edge which is black with two slight triangular black projections, one near the base, the other at basal fourth. Outer half of the wing heavily overlaid with fawn-colored and slightly raised black scales with an iridescent sheen leaving the silvery white color unmixed only in a small costal streak at apical third and in a somewhat larger area on terminal edge; the darker apical half of the wing is edged basally by an outwardly curved dorsal streak of raised black scale, which nearly meets a similar outwardly curved dorsal streak with raised black scales; this latter limits a triangular costal spot of white, black-tipped scales, followed by the small costal white spot; beyond this is a large arrow-shaped area of white, black-tipped scales, limited apically by an oblique black costal streak followed by a white line and dorsally by the white area on termen, which is edged outwardly by a thin, oblique black line. Costal cilia mixed black and brown; dorsal cilia pure white below apex; yellowish along termen. Hind wing silvery fuscous with dark fuscous cilia. Legs black on outer sides, whitish on inner sides, tarsi black with narrow white annulations; tuft on posterior tibiae yellowish.

Male genitalia (Plate 13, fig. 1) typical of the genus with the harpes divided, costal part thin and soft, apex rounded; dorsal part more heavily chitinized and ending in a short hook; anellus with two lateral triangular processes, enclosing the slightly curved, short aedeagus; two long, strong, hooked cornuti. Uncus long, curved, pointed, spear-shaped.

Female genitalia (Plate 13, fig. 3) with ostium small, cup-shaped, flush with the abdominal wall; ductus long, looped once upon itself; bursa oval with two strong "S"-shaped signa the bases of which extend outside of the bursa.

Alar expanse, 9 - 11 mm.

TYPE—U. S. Nat. Mus. No. 54052.

HABITAT—Gainesville, Florida.

FOODPLANT—*Crocanthemum corumbosum*.

Reared in large series by Mr. L. J. Bottimer from the seed pods of the above plant. The moths issued in late May and early June.

A very distinct and pretty species which reminds one of and is closest to the much larger *Mompha eloisella* Clemens. Named in honor of my good friend L. J. Bottimer of the U. S. Department of Agriculture, who through many years has added much to our knowledge of the North American Microlepidoptera through his careful rearings and discoveries of many new forms.

MOMPHA CAPELLA n. sp.

Second joint of labial palpi with well developed brush, dark brown closely sprinkled with white; terminal joint roughened in front, blackish brown with a narrow white annulation on middle. Antennae blackish brown with narrow whitish annulations. Tongue well developed, spiraled. Face golden yellow. Head and thorax dark brown, sprinkled with white. Fore wings elongate ovate, pointed, termen slightly sinuate below apex; dark brown, thickly dotted with white and black on base and on outer four-fifths; a large tuft of raised black scales, edged with white and brown on the fold; another similar large tuft below the end of the cell; a narrow, outwardly sharply angulated, brown fascia terminating in a short longitudinal black dash at apical fifth; costal cilia white, tipped with black and with an oblique line on base; dorsal cilia brownish white. Hind wings light brownish fuscous; cilia a shade darker. Abdomen dark brown. Legs dark brown, mottled with white scales. Tarsal joint dark brown with narrow white annulations.

Male genitalia (Plate 13, fig. 2) typical of the genus with uncus long, narrowly spear-shaped, slightly curved, pointed; gnathos and transtilla absent; harpes divided with costal half soft, hairy, a little shorter than dorsal half, which is stronger chitimized, apex pointed. Anellus a small rounded plate with two lateral, elongate, soft projections enclosing the aedeagus. Aede-

gus short, slightly curved, apex pointed; two long, stout, twisted cornuti. Female genitalia (Plate 13, fig. 4) with small oval ostium; ductus rather wide, long, looped once upon itself; bursa elongate ovate with two long sharply pointed, curved signa, the bases of which extend outside the wall of the bursa.*

CHRYSOCLISTA LINNEELLA (Clerck)

Clerck, Icones Insectorum, Plate 2, fig. 8, 1764.

This pretty European species has been introduced into northeast United States and was well established in 1928, when I first identified the species from specimens reared from the bark of Linden (*Tilia europaea*) by my friend, Fred M. Schott, at Rutherford, New Jersey, in August, 1928. Mr. Schott has reared the species repeatedly since then in Bergenfield, New Jersey. It has also been received for identification, reared from *Tilia* in Boston, Massachusetts.

The occurrence of the species in America has not hitherto been recorded in the literature.

FAMILY GELECHIIDAE

AROGA ALLERIELLA new species

Second joint of labial palpi with well developed furrowed brush, white sprinkled with black; terminal joint nearly as long as second, smooth, apex pointed, black with apex white. Antennae black. Face white. Head whitish fuscous. Thorax black. Fore wings black with white markings; a white costal streak, outwardly oblique from before basal fourth, reaching to the fold; a smaller inwardly oblique costal streak at apical fourth, opposite which a similar white dorsal streak; a short longitudinal white spot on the middle of cell; a minute white dot on the middle of the fold and a few white scales at apex. Abdomen dark fuscous. Legs black with white bars on the tibiae and white spurs; tarsi black with white annulations.

Male and female genitalia typical of the genus (see Proc. U. S. Nat. Museum, vol. 86, pl. 61, fig. 17; pl. 68, fig. 51, 1939).

Alar expanse, 17 - 22 mm.

TYPE—U. S. National Museum No. 54051.

HABITAT—Mobile, Alabama.

FOODPLANT—*Polygonum maritimum*.

* A page of manuscript to follow this was lost and is not recoverable at present, due to the author's absence in Honolulu. It undoubtedly gave the U. S. National Museum number 54053 and biological notes. Mr. Bottimer reared the species in large numbers from the seed pods of a plant closely allied to the foodplant of the foregoing species. Type locality: New Jersey.—A. B.

Reared in numbers from stems of *Polygonum* by my friend, Dr. Th. Van Aller, for whom I take pleasure in naming the species.

The species is nearest to and nearly identical in ornamentation with *Aroga coloradensis* (Busck), but considerably larger and differing in details of the genitalia; *A. coloradensis* has the strongly chitinized tips of the upper arms of the harpe much longer and strongly curved against the shorter nearly straight tips of *A. alleriella*; the signum in the female of *A. alleriella* has the four spines much stouter and shorter than those of *A. coloradensis*.

PAVOLECHIA Busck

TYPE: *P. argentea* Busck.

Proc. U. S. National Museum, vol. 47, pp. 20-21, 1914.
n. syn. *Desmaucha* Meyrick.

TYPE: *D. chrysostoma* Meyrick.

Exot. Micros., vol. 2, pp. 146-147, 1918.

These names apply to the same easily recognized, strikingly marked species, as ascertained by comparison of the types by my old friend Edward Meyrick and myself on a visit in Marlborough in 1932. Meyrick's generic and specific names fall as synonyms. The slight discrepancies in Meyrick's description of the venation of the hind wings were due to the difficulty in seeing the veins in the thickly scaled wings; the denuded wing clearly shows vein 5 absent and veins 6 and 7 connate, diverging. (Meyrick concurring.)

FAMILY OECOPHORIDAE

HASTAMEA n. n.

HASTA Busck

TYPE: *H. argentidorsella* Busck.

Proc. U. S. National Museum, vol. 40, p. 210, pl. 8, fig. 3, 1911.

Preoccupied by *Hasta* Kirkaldy, 1906.

My good friend, T. Bainbrigge Fletcher, has repeatedly called my attention to this and asked for correction.

Male and female genitalia are given on Plate 13, figs. 5 and 6.

FAMILY TORTRICIDAE

SYNOPTIC TABLE OF THE SUBFAMILIES OF THE NORTH AMERICAN TORTRICIDAE

ON MALE GENITALIA

1. Uncus absent *Tortricinae*
 Uncus present 2
2. Uncus spiny *Cnephasiinae*
 Uncus smooth 3
3. Uncus long, slender, curved, pointed..... *Sparganothiinae*
 Uncus spoon-shaped, blunt *Archipsinae*
1. Gnathos absent or divided into two free arms..... *Sparganothiinae*
 Gnathos not divided 2
2. Gnathos with flat ventral plate..... *Tortricinae*
 Gnathos hook-like, without plate..... 3
3. Gnathos a strong compressed hook..... *Archipsinae*
 Gnathos weak with small hook..... *Cnephasiinae*

ON FEMALE GENITALIA

- Signum a single smooth horn with bulbed base..... *Archipsinae*
 Signum a straight dentate band..... *Cnephasiinae*
 Signum a single stellate plate..... *Tortricinae*
 Signum a smooth ribbon or a twisted rope *Sparganothiinae* * **

SUBFAMILY ARCHIPSINAE

TEMPLEMANIA new genus

TYPE: *Tortrix animosana* Busck.

Journ. N. Y. Ent. Soc., vol. 15, p. 235, 1907.

Second joint of labial palpi long, upright, close to vertex; terminal joint short, blunt, slightly porrected. Antennae half the length of the fore wings; strongly, doubly pectinate in the male, simple in the female. Tongue well developed, spiraled. Face, head and thorax smooth. Fore wings with base of costa gently curved, apex bluntly pointed, termen rounded, dorsal edge parallel with costa; 12 veins all separate; vein 2 from middle of cell, 3 from end of cell, 4 and 5 approximate, 6, 7, 8, parallel; 7 to termen below apex, 1*b* strongly furcate. Hind wings as broad as fore wings, termen evenly curved; 8 veins, 6 and 7 closely approximate on basal third, thence diverging; 3 and 4 connate; 5 approximate to 4.

* Except *Niasoma* with signum a horn.

** Some species in all subfamilies have no signum.

GENERIC TABLE OF THE NORTH AMERICAN SUBFAMILY TORTRICINAE

ON MALE GENITALIA

1. Socii absent *Apotoforma* Busck
type: *rotundipennis* Wlsm.
- Socii present, well developed..... 2
2. Ventral plate strongly chitinized with edges folded over.....
..... *Peronea* Curtis
type: *cristana* Fabr.
- Ventral plate weakly chitinized, straight..... *Argyrotoza* Stephens
type: *bergmanniana* Linn.

Synopsis of Subfamily Tortricinae. Fore wing, 7 and 8 separate to costa (*Apotoforma* and *Peronea*) or to termen (*Argyrotoza*); Hind-wing *without* pecten. Uncus absent. Gnathos not divided, with ventral plate.

PERONEA NEGUNDANA new species

(Plate 14, figs. 1 and 2)

Labial palpi, face, head and thorax light whitish yellow. Fore wing light yellow overlaid with slightly darker yellow dusting and with black markings. A large triangular spot, reaching from the basal third to apical fourth and downwards to the middle of the cell, blackish fuscous, normally with the center ochreous; numerous small raised tufts of deep black scales, one on the base of the cell, another below it on the fold; a series of six or seven along the basal edge of the costal triangle; and outwardly curved series of black raised dots from middle of costa to middle of termen and others scattered over apical third of the wing. Cilia light yellow sprinkled with black. Hind wing whitish with terminal edge touched with blackish fuscous. Abdomen light yellowish fuscous. Legs whitish yellow; tarsi with black annulations.

There is considerable variation in the coloration in the nearly hundred specimens before me; some specimens have the triangular costal spot much less prominent, nearly obsolete and the small black tufts of raised scales much more numerous and scattered over the entire wing.

Male genitalia with hood-shaped tegumen; ventral plate elongate, deeply forked at tip with a strong, sharp spine below the furcation; socii long, narrow, erect, reaching beyond the ventral plate; transtilla simple; harpes elongate, apex produces pointed; sacculus emarginate, thickened, terminating in a hair-tuft; aedeagus with strong, long, lateral branch; cornuti two short spines.

Female genitalia with posterior part of ductus strongly reinforced by a line of heavy sclerotizations and another opposite weaker line; bursa large, oval; signum a small star-shaped plate.

Alar expanse, 13 - 17 mm.

TYPE: U. S. National Museum No. 54050.

HABITAT: District of Columbia, Maryland and Virginia along the Potomac River.

FOODPLANT: *Negundum*.

The branched aedeagus of the species is a rare character in the genus *Peronea*, found, as far as known, only in one other species, the European *Peronea fissurana* Pierce; paratypes and genitalia slides of that species, kindly presented to me by Mr. Pierce, are in the U. S. National Museum.

SUBFAMILY SPARGANOTHINAE

This subfamily is confined to the American continent; only a single species, *Spanganothis pilleriana* is found in Europe, introduced accidentally within recent time.

GENERIC TABLE OF THE NORTH AMERICAN SUBFAMILY SPARGANOTHINAE

ON VENATION AND EXTERNAL STRUCTURE

Synopsis of Subfamily: (1) 7 and 8 in fore wing stalked or coincident. (2) Hind wing *with* pecten (except *Coelostathma*). (3) Uncus long, slender, curved. (4) Socii flat erect. (5) Gnathos divided into two free arms, no ventral plate. (6) Cornuti attached on their side, deciduous.

1. Fore wing with vein 9 out of 7; Hind wing without pecten
..... *Coelostathma* Clms.
Fore wing with 9 free; Hind wing with pecten..... 2
2. Tongue weak or rudimentary; male antennae bipectinate..... 3
Tongue well developed; male antennae ciliate..... 4
3. Face, head and thorax hairy*Synnoma* Wlsm.
Face, head and thorax normally scaled*Niasoma* Busek
4. Fore wing with all veins present in both sexes..... 5
Fore wing with 7 and 8 coincident at least in male.*Amorbia* Clemens
5. Fore wing with strongly raised scales and decided costal fold
..... *Platynota* Clemens
Fore wing smooth with slightly raised scales; without or with
small costal fold*Sparganothis* Hbn.

GENERIC TABLE OF THE NORTH AMERICAN SUBFAMILY
SPARGANOTHINAE

ON MALE GENITALIA

- | | |
|--|------------------------------------|
| 1. Gnathos absent | 2 |
| Gnathos developed into free arms..... | 4 |
| 2. Socii large, upright flattened; transtilla without horns..... | 3 |
| Socii small; transtilla with large lateral horns..... | <i>Niasoma</i> Busck |
| | type: <i>metallicana</i> Wlsm. |
| 3. Transtilla smooth | <i>Coelostathma</i> Clemens |
| | type: <i>discopunctana</i> Clemens |
| Transtilla spined | <i>Amorbia</i> Clemens |
| | type: <i>humerosana</i> Clemens |
| 4. Harpes evenly tapering to apex | <i>Sparganothis</i> Hubner |
| | type: <i>pilleriana</i> Schiff. |
| Harpes with costa and dorsum nearly parallel.... | <i>Platynota</i> Clemens |
| | type: <i>idaeusalis</i> Walker |

NIASOMA new genus

TYPE: *Platynota metallica* Walsingham.

Trans. Ent. Soc. Lond., Plate 12, fig 1, 1895.

Labial palpi very long, porrected; second joint slightly thickened with rough scaling; terminal joint long, nearly a third as long as second, smooth, obtusely pointed, slightly deflected. Tongue very weak, nearly obsolete, spiraled. Antennae in male bipectinate, in female simple. Face thinly scaled, smooth; vertex smooth with scales protruding over face. Thorax smooth. Fore wing with tufts and ridges of roughly raised scales; 12 veins, 2 from middle of cell, 7 and 8 stalked, 7 to termen. Hind wings with cubital pecten; 3 and 4 separate; 5 parallel to 4; 6 and 7 short stalked.

Male genitalia (Plate 14, fig. 3) with uncus short, stout, curved, spoon-shaped, pointed; socii weak, short, paddle-shaped, pointed, porrected. Gnathos absent. Transtilla a narrow band with two strongly chitinized, lateral pointed and spined horns. Harpes broad, irregularly ovate, sacculus narrow, strongly chitinized, protruding and spiny at apex. Aedeagus long, stout, nearly straight, flaring at tip with four long, thin, needle-like, deciduous cornuti. Vinculum a narrow band.

Female genitalia (Plate 14, fig. 4) with ostium plate strongly chitinized; bursa large, oval; signum a single strong smooth horn.

An aberrant genus, but probably best placed in the subfamily *Sparganothinae* in spite of the feeble pecten on the hind wing and the single hornlike signum of the female, which would place it in the subfamily *Archipsidae*.

EXPLANATION OF PLATES

PLATE 13

- Fig. 1. *Mompha bottimeri* Busck ♂
Fig. 2. *Mompha capella* Busck ♂
Fig. 3. *Mompha bottimeri* Busck ♀
Fig. 4. *Mompha capella* Busck ♀
Fig. 5. *Hastamea argentidorsella* Busck ♀
Fig. 6. *Hastamea argentidorsella* Busck ♂

PLATE 14

- Fig. 1. *Peronea negundana* Busck ♂
Fig. 2. *Peronea negundana* Busck ♀
Fig. 3. *Niasoma metallicana* Walsingham ♂
Fig. 4. *Niasoma metallicana* Walsingham ♀
Fig. 5. *Templemania animosana* Busck ♂

The figures were made from the author's slides by Mrs. Eleanor Templeman Carlin of the U. S. Bureau of Entomology and I wish to express my thanks to her for many years' helpful cooperation and my thanks to the Bureau for permission to use these drawings.



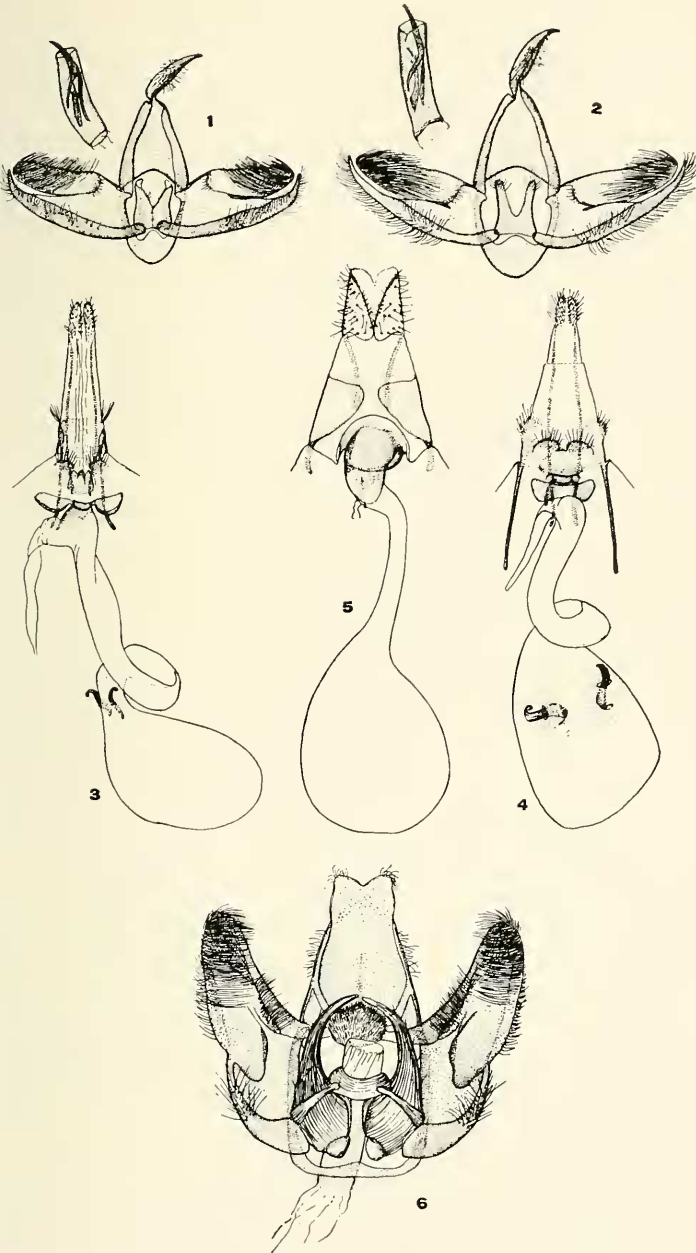


PLATE 13

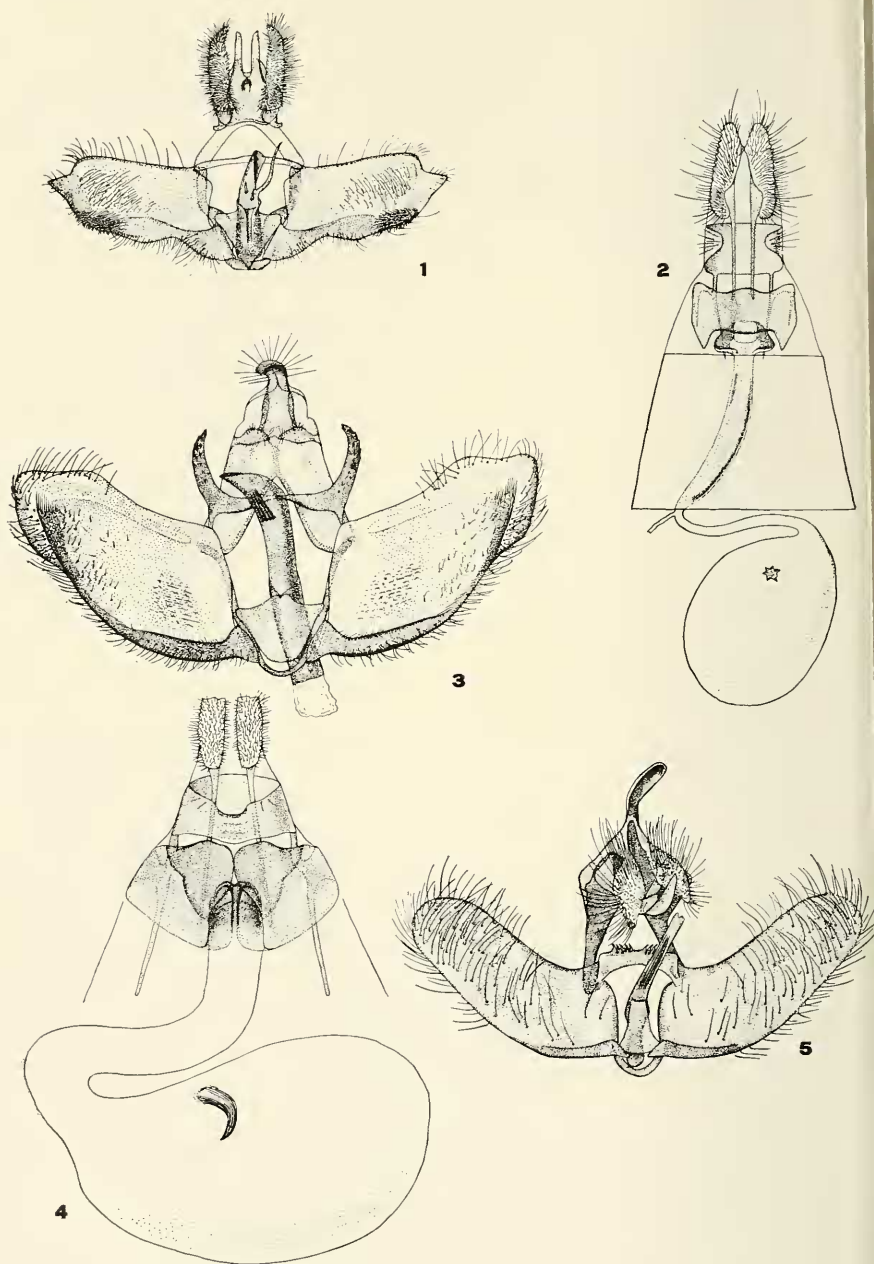


PLATE 14